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Design | Industry | Futures

The Future of the UK Design Industry –
An investigation into the threats and opportunities for the
UK design industry over the next 10 to 15 years.

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Edited by Rachel Cooper, Martyn Evans & Alex Williams
With contributions from Linda Hodgson, Nick Hall & Qian Sun

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Executive Summary

The objective of this study is to examine the future of the UK design industry. It aims to identify challenges and opportunities facing the UK design industry over the next decade and to develop a framework to signpost and support change.

The project focuses on the UK design consultancy sector, with specific reference to brand and corporate identity, multimedia, new product development, packaging, and service design. The project does not consider designer-makers or craft-based designers.

Research has been conducted in two stages. The first involved a review of literature and focus group research, which identified key issues and concerns within the sector, and has informed the development of a conceptual framework and scenario tools. A second stage involved interviews and focus groups with three sets of stakeholders: (i) design practitioners and design consultancies, (ii) design buyers/clients (including both private and public sectors), (iii) design policymakers and design educators. These stakeholders were consulted in order to establish the nature of the transactions between all parties in the knowledge supply chain.

The findings present a conceptual framework as a model of the business context for design that identifies the driving forces in the market. Four future scenarios are described as well as the design industry's response to these which include the development of ten potential business models for the sector. Five of these models were identified as viable by policy maker respondents: Small Independents, Specialist Design Groups, Mega Design Corps, and Design Strategists. All of these business models which exist to some extent today. However a new model thought to be likely to gain credibility was the Special Interest Groups (SIG) Niche Network. Design respondents identified with five models: UK Design Centres in BRIC Economies, Specialised Innovation Services, Design Strategists, UK Export Engine, and Mega Design Corps.

Analysis of the responses to these scenarios and models revealed the dimensions of the framework that required further attention which included: revising design education, creating a single professional body for accreditation, and encouraging design companies to radically rethink their business models.

Introduction

Over the past two decades the UK's move from an industrial-based to a knowledge-based economy has been accompanied by changes in the design industry, especially the design consultancy sector. There have also been concerns within the UK design industry regarding issues such as: a blurred identity for the industry, the commoditisation of design, the loss of specialisms, and shifting patterns of client demand. Whilst this has been recognised in a number of key reports, e.g. The Cox Review of Creativity in Business (Cox, 2005), the DTI's Creativity, Design and Business Performance (DTI, 2005), and DCMS's Staying Ahead: The Economic Performance of the UK's Creative Industries (The Work Foundation, 2007), this has been accompanied by much rhetoric yet few evidence-based propositions for the future have been put forward. Indeed research in the field is largely fragmented.

Most research has focused heavily on the 'business of design'. The UK Design Council's research (Design Council, 2006) represents perhaps the most comprehensive picture of the UK design industry. Whilst the Design Council has other programmes that have shed light on commissioners or buyers of design, and developments in design education, there is still little objective work on the design industry structure and operation. Surveying the business of design from the standpoint of its practitioners alone provides a situation which often only perpetuates the industry's own myths and aspirations. The design industry cannot be viewed in isolation, indeed the industry structure and trends are influenced by a wider range of stakeholders, encompassing clients, Higher Education Institutions (HEIs), supply industries, consumers, and trade associations. There is a need,

therefore, to determine the dynamics amongst all of the various design industry stakeholders and identify the most appropriate future(s) for the sector.

The research in this report sets out to address this need and is supported by the literature from Professional Service Firms (PSF) field, in which the significant power of clients and other stakeholders over the PSFs is widely recognised. The approach adopted in this research uses Porter's Five Forces theory (1979) and a PSF conceptual framework developed by Scott (1998), as a starting point to develop a conceptual framework which enables the authors to investigate the dynamics within the industry. In the model, key stakeholders are mapped against their interactions with the design industry.

The research has been conducted in two stages. The first involved a review of literature and preliminary focus group research, which identified key issues and concerns within the sector, this also informed the development of the conceptual framework. A second stage, involved the development of future scenarios (the method is described in the appendix) in consultation with a panel of futures experts for use as tools in interviews and focus group workshops that were conducted with three sets of stakeholders: (i) design practitioners and design consultancies, (ii) design buyers/clients (from both private and public sectors), and (iii) design policymakers and design educators. This consultation has explored the likely

Most research has focused heavily on the 'business of design'... there is still little objective work on the design industry structure and operation.

response of the various stakeholders in the model to the threats and opportunities posed by four scenarios, and has sought to identify potential changes in the demographics of the design industry, in terms of new models of practice, scope, and scale.

The remainder of this report explains the context, the findings of each stage of the work, followed by analysis and discussion of the results with implications and recommendations.

The Design Context

UK Economy and Innovation

Globalisation is creating tremendous opportunities as well as challenges for the UK economy. It is apparent that the role of the UK within global supply chains is changing dramatically. This is evidenced by a fall in the share of output measured in current prices accounted for by manufacturing, a shift towards higher skilled professions (such as professional services) and research and development (Design Council, 2008).

The UK Department of Trade and Industry (DTI, 2005) argued that these changes reinforce the importance of innovation in terms of value-added and to economic advantage in the UK for stimulating higher productivity and sustainable profitability and allowing the UK to remain highly competitive in a globalised market. This also leads to the concept of innovation encompassing more than the generation and use of new technology, extending this to the idea of the 'knowledge based' or 'knowledge driven' economy (DTI, 2005).

In line with the shift of the UK economy, there is a growing recognition that through the effective integration of design - linking creativity and innovation, and shaping ideas to become practical and attractive propositions for users or customers (Cox, 2005) - companies are more likely to be innovative, become more competitive, increase their profits and boost their performance. This is confirmed by research (Design Council, 2006) in which design is seen as a key driver of business growth and competitiveness. However, it is also recognized that many companies, especially UK-based SMEs, are missing the huge opportunity that design and creativity can offer, that SMEs typically lack aspiration, are unable to see the relevance of design, often lack the skills and don't know where to turn to engage with the design industry (The Work Foundation, 2007). It is apparent that UK industry as a whole has to find ways in which it could increasingly use design to add value to its products and services in order to differentiate them in highly competitive markets. These issues rather than being less important in the current economic climate are in fact more important. To operate in the future our design knowledge and skills will be one of the means of moving out of recession.

Many companies, especially UK-based SMEs, are missing the huge opportunity that design creativity can offer.

UK Design Industry Structure

Given these confluences the UK design industry, representing 62,000 designers – spread across product, service, branding, graphic, fashion, interior and craft sectors, with a £3 billion annual turnover (British Design Innovation, 2007) – is facing growing competition from the global market for design and creative services (Cox, 2005). The question is whether the industry can compete in this context. Its craft skills are world-renowned (Design Skills Advisory Panel, 2008) but are they enough by themselves to convince business and the public sector that design can also play a bigger role in defining problems and shaping briefs as well as developing solutions? Recent research (Design Council, 2008) exploring the UK design industry's attitudes towards international competition, reveals that the majority of respondents are reacting positively, guarding against complacency in the industry, and encouraging greater competitiveness.

Although the mindset of the design businesses facing international competition is proactive and positive, and many believe that the UK design industry is 'big, successful and optimistic' (Cox, 2005), the British Design Innovation survey (British Design Innovation, 2007) reveals an opposite picture of the industry, with a 30% fall in turnover over the past five years, and a 15% fall in employees over the last two years, signifying a significant shrinkage in the size of the industry.

At the same time, the structure of the industry has undergone considerable changes since the 'designer decade' of the 1980s (Bruce & Morris, 1996). The industry has seen the percentage of total employment in the 0-5 employee range rise (British Design Innovation, 2007), and the majority of design businesses are now small enterprises employing under 10 people (Design

Council, 2006). It has also seen that some of the leading large design consultancies have begun to downsize, a forerunner to the expansion of the SME sector in the design industry and indicative of an increasing number of client companies creating in-house design facilities (Relph-Knight, 2002). In terms of the industry segments, research by both British Design Innovation (2007) and the Design Council (2006) show the industry to be divided. Some new disciplines such as proposition creation, service design, and IP exploration are growing and yet still display symptoms of immaturity (Balmond, 2005), whilst more traditional ones are seen as saturated (British Design Innovation, 2007).

These situations undoubtedly present significant challenges and uncertainties to the business of design, with research (Design Skills Advisory Panel, 2008) identifying the key challenges as: (i) the weak links between design education and design practice and the near absence of personal and professional development within the industry, (ii) the cottage industry mentality of leadership and management in many design firms, and (iii) the lack of cohesiveness in the industry, which means that the client and the public do not see design as a valuable profession. It is also recognised that there is a strong lack of long term planning or forethought in design business, with too great a focus on day to day operation (Design Council, 2006).

Many initiatives have been undertaken in an attempt to identify the gaps and solutions for the future of the design industry. For example, the DTI (DTI, 2005) proposes a primary strategy focusing on: (i) improving design skills and education, fostering leadership and management in design and professional development, (ii) ensuring SMEs have access to first-class support, enabling new technologies, training and strategic ventures to succeed, (iii) raising public awareness of

design, and (iv) improving relationships between design and professional bodies. Whilst the Design Council (2008) believes that the industry must become better at demonstrating the value it can add to business, acquire business skills of its own, and deepen and broaden its design capabilities to meet new global challenges.

As a potential solution for the future of the design industry, many promote the concept of ‘Design Thinking’ (Brown, 2008), a term given to the introduction of design methods and culture into fields beyond traditional design, such as business innovation. At the same time, some believe that export is the way forward (Stead, 2005), although it is recognized that design markets in those various territories, such as the BRIC (Brazil, Russia, India, China) economies, differ from the UK market and the differences are hard to integrate (Relph-Knight, 2006).

It is clear there has been no shortage of advice on the things the design industry needs to do based on the current business landscape. The research set out in the report looks at these issues from the perspective of future threats and opportunities.

The dynamics of the design environment: a conceptual model

Given the indistinct future the design industry is facing, it is believed that there is still a window of opportunity, while the new economies develop the kinds of creative skills necessary to compete across the board (Cox,

2005). However, this is accompanied by much rhetoric and few evidence-based solutions have been put forward. The British Design Industry Valuation Survey 2006-07 reveals that with so much government activity centred on the value design brings to business, it is therefore worrying not to see that message translating into the increased purchase of design or increased fee levels (British Design Innovation, 2007). As stated previously, current research shows a clear myopia where the design industry is viewed and investigated from the inside-out and that surveying the business of design from the standpoint of its practitioners alone provides a scenario which only perpetuates the industry’s own myths and aspirations. The authors believe that there is a need to outline the dynamics amongst all of the various stakeholders. The authors therefore set out to address the dynamics of the environment by adopting a conceptual framework, based on two theories:

- 1 Porter’s Five Forces¹ (1978 & 1998) has been used under various guises as a framework for industry

1 A survey carried out by Porter’s opponents in the late 1980s revealed that only a few of the influences Porter flagged commanded strong empirical support (Wheelen & Hunger 1998). However, the forces themselves have not been refuted. Equally, at the turn of the millennium many argued whether the Internet makes traditional strategy tools obsolete; for example, Nikolopoulos et al. (2005) attempted to criticise Porter’s thoughts regarding Internet and industry structure and to enrich the Porter’s five forces model with the “power of innovation”. However, Porter’s (2001) arguments for the new economy demonstrated this to be a flawed perception. Many researchers have thereafter successfully applied the Five Forces model in analysis the impact of IT and the Internet on various industries taking Porter’s (2001) arguments as a start point. This further reveals that the Five Forces model can be applied not only cross various disciplines but also is transferable over times.

analysis. In this model, it is believed that in any industry the nature of competition is embodied in five competitive forces: (i) the threat of new entrants, (ii) the threat of substitute products or services, (iii) the bargaining power of suppliers, (iv) the bargaining power of buyers, and (v) the rivalry among the existing competitors. The strength of each of the five competitive forces is a function of industry structure, or the underlying economic and technical characteristics of an industry. This model has been used to include a large number of representative competitors three-stage chains made up of: suppliers, rivals and buyers; potential entrants and substitutes; as well as direct rivals (Nikolopoulos et al. 2005).

- 2 Professional Service Firms (PSF) apply specialist technical knowledge to the creation of customised solutions to clients' problems, and is distinctive in three key respects: (i) resource base as knowledge, expertise, and experience, (ii) organisational form through the partnership form of governance, and (iii) professional identity (Clegg & Bailey, 2008). This definition is very close to the activities of design consultancies, they could indeed be considered as PSF's. Scott (1998) has adapted Porter's Five Forces to analyse the PSFs industry, determining the relative attractiveness of different PSF segments in terms of their potential profitability.

Given the similarity between the design industry and the PSFs, it appears to be valid to consider: whether the differences uncovered via analysing the relationships amongst various forces in the design industry, could identify future potential for the design industry; and to what extent the design industry can learn from the PSF best practices. Therefore using Porter's Five Forces theory (Porter, 1979) and the PSF

model (Scott, 1998) as starting points, a conceptual framework (figure 1) has been developed. This has been used to identify key relationships within the design industry (figure 2), envisaging the impact of various stakeholders on the business of design and defining a clear boundary around its value chain - a key requisite in applying Porter's model (Gold et al, 2005). The model represented in figure 2 illustrates:

- 1 designer consultancies (in the centre) are represented as rivals to each other; their relationships, either as direct competition or collaboration, are indicative of the level of capacity and demand in the industry;
- 2 designers translate innovation or knowledge into design solutions, and are represented as supplying design expertise and creativity capability to industry, which is sourced from knowledge suppliers; consumers, design educators, and technology and innovation providers such as RTDs;
- 3 design buyers may be either private or public clients;
- 4 substitutes and alternative service providers, such as management and marketing consultancies, and off-shore and in-house design teams are substitutes for the services offered by design consultancies;
- 5 at the same time, design businesses create barriers to new entrants, with design associations defining the boundaries of design via advocacy or accreditation, and government playing a significant role in influencing all five forces.

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Figure 1
Conceptual framework
for the design industry,
based on Porter (1979)
and Scott (1998)

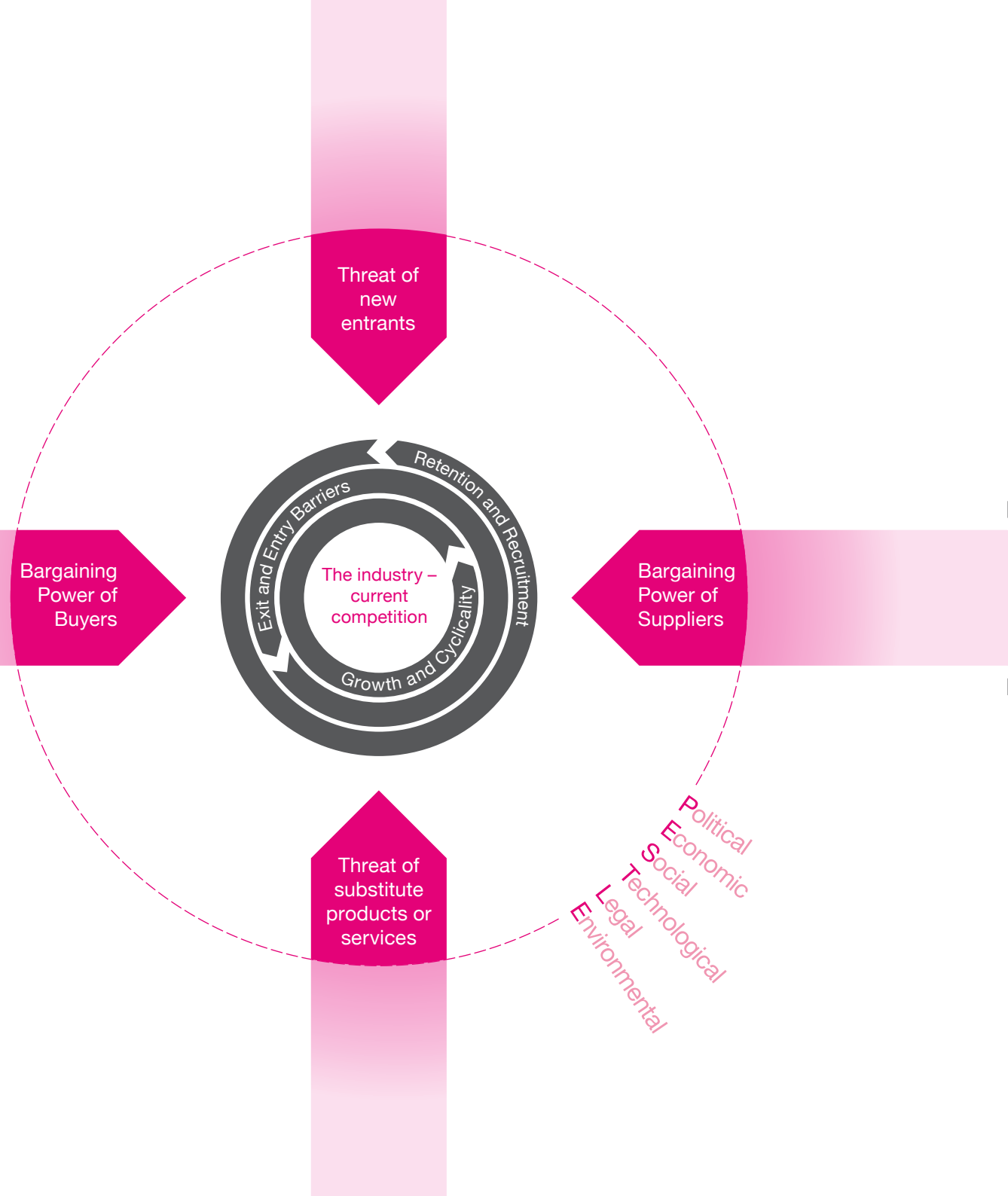
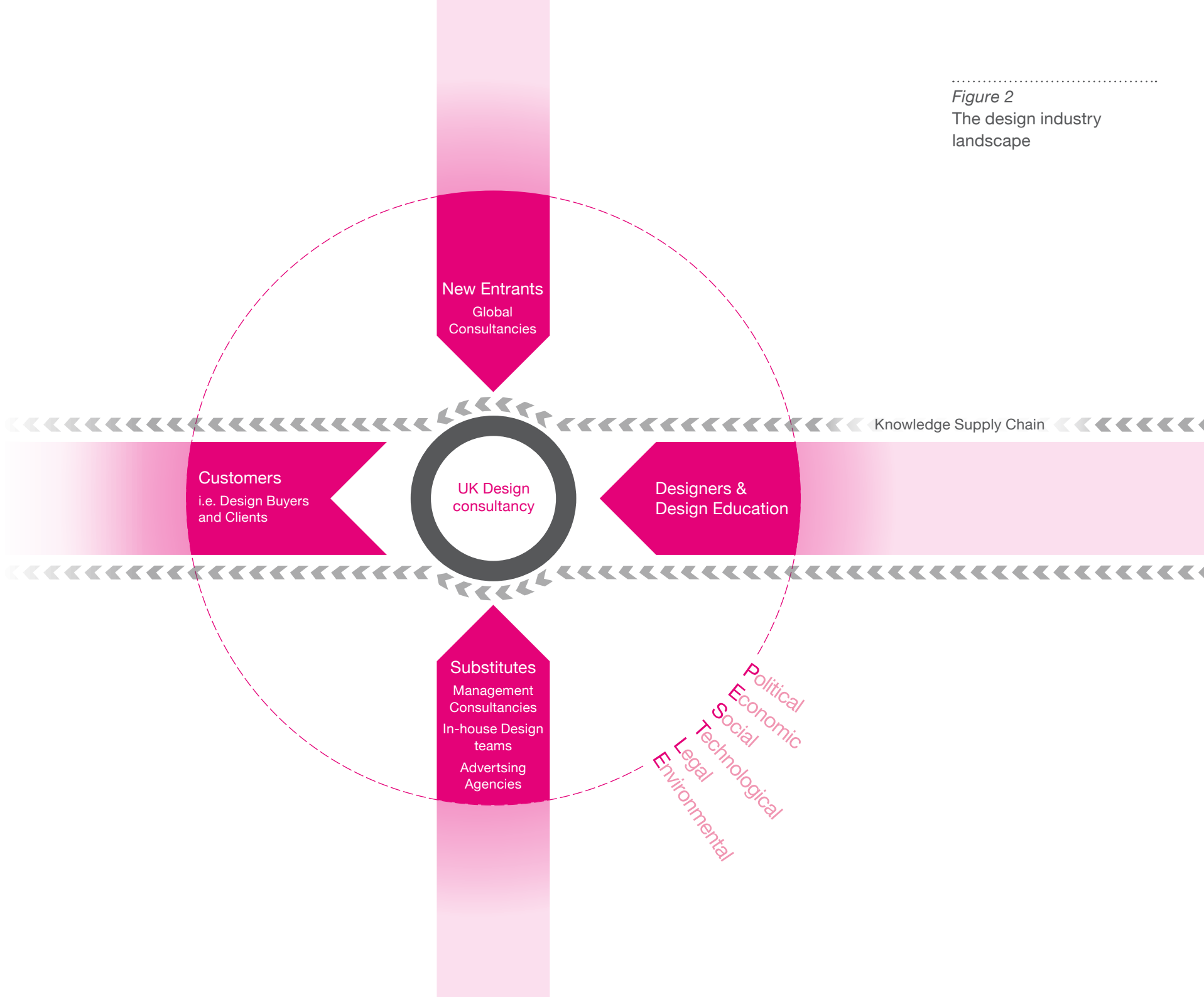


Figure 2
The design industry
landscape



In addition we recognise that external factor will influence each of the five forces, therefore we have used PESTLE factors (globalisation, population demographics, technology, and environmental resources) in the model and as such the whole represents a system, and needs to be regarded as such. Design business, in this sense, reacts only to forces within this space, each of which responds differently to the stimuli (opportunities and threats) afforded by future scenarios. The framework therefore provides a means of conceptualising both (i) how future trends and wildcards individually influence these forces and (ii) how these forces interact with design.

This framework was used as a basis to investigate the system in which UK design consultancies operate and draw out from the stakeholders in the system the current and future opportunities and challenges.

Investigating the Five Forces of the Design Industry

Focus groups (see appendix for details) were undertaken to explore with representatives from the design industry, their perspective of contemporary and past issues/events, and the influences and forces for change on their specific specialism. These focus groups were used more specifically to establish, through discussion, whether the framework has validity, and to elicit information that would make this model richer. The focus group used the frameworks five dimensions to identify the following current concerns and issues:

1 Design Consultancies: Competition Level

Many design agencies appear not to be proficient at, or interested in, business development, starting off as loose groups of creative colleagues, and ending in the establishment of break-away businesses and the appropriation of clients.

The focus group respondents believed that despite their creative ability, many such businesses are not good at managing change, lacking the time or resources to devote to business development, risk management and sustainability. As such, many are trapped at the product process end of the spectrum. Small to medium sized design groups are more susceptible to closure, being neither big enough to simultaneously appropriate new clients and deliver design, nor small and flexible enough to weather storms. This is compounded by 'free pitching' and commercial pressure to lower fees. A number of consultancies are considering whether to take ownership/equity stakes, making the transition from fee to royalty-based services. However, only the larger agencies appear to have the cash-flow to support this. At the same time, it was perceived that the cottage industry culture makes differentiation of the quality of intellectual capital, e.g. brand reputation, impossible (with the sole exception of some companies, for instance IDEO or Seymour Powell).

2 Suppliers of Knowledge

The supply of design knowledge is an issue challenging the industry. For the suppliers of design knowledge, for example design educators, design graduates, or the lone designer, the impact of 'open innovation' (von Hippel, 2005) is yet to be seen. However, clients are increasingly aware of the power of social networks in

Despite their creative ability, many such businesses are not good at managing change.

forming and gathering opinion. In addition, there is an increasing emphasis on experience and service design. Therefore there is a recognised need to embrace more innovative means of engaging self-selecting social groups both globally and regionally – the latter is evident particularly in relation to healthcare, an ageing population and ‘long-tail’ niches – and in facilitating their participation in design.

At the same time, an escalation in the rate of such technological developments reinforces the need for specialisation, particularly in terms of systems, materials and applications. This results in an escalation in levels of contracting out to alternative providers.

In addition, the respondents felt that there is an over-supply of graduates, and skill gaps between education and design practice have increased. Rewarding and retaining talented designers is increasingly difficult as the urge to work for themselves results in a high staff turnover as the designers themselves gain experience and move on.

3 Design Buyers

The focus group respondents believed that it is common for design services to be seen not as knowledge providers, but as other commodity suppliers. Clients

tend to be unwilling to pay a premium, in contrast to other PSF who tend to be paid based on the value of the services to the client and not to the costs of delivery.

Even where clients understand that design adds value to a business, creativity and innovation are perceived to increase financial risk, especially in smaller businesses. At the same time, there is a reluctance for middle management (where decisions often lie) to make decisions on design. Whereas PSF predominantly deal at board level, the latter being less price-sensitive and they are more comfortable making decisions about design.

Clients have the power to choose among various design sources, either in the UK or abroad. However, where they see design as critical to their business, there is a tendency to invest in-house design capability, instead of outsourcing, as a means of maximising value. Moreover, clients are able to play design agencies off against each other, as in reality the over capacity has led to the development of a buyer’s market. The exception to this appears to be marketing and branding, where ‘out of the box’ concepts are more critical to business success.

Whilst many designers believe design services can move to a more strategic level, clients tend not to share this perception, failing to view design as a business strategy and tending to bring it in to solve problems at the end of the process. Also designers to date, have had a narrow view of what constitutes a client and tend to overlook the public sector, whereas much of the growth dynamic regionally is in the blueprinting and outsourcing of public sector services.

4 New Entrants/Alternative service providers

Much of Asian design appears to be concentrated on product development, its low cost base has proved particularly attractive, as has its collocation with production. A number of Western design groups have been able to successfully compete in Asia because of their value-driven insights, simultaneously addressing Asia's growing resource issues and increasing the cultural relevance of products imported back to the West particularly with regard to eco-sustainability issues. However, the focus groups report a notable shift from 'A-Z' to 'A-G' product development, or the front-end concept development, particularly within commodity product sectors, as clients have increasingly sought to commission detailing and prototyping with designers collocated at the point of production. However, diversification in design has also created niche opportunities, particularly in areas related to strategic design and 'design thinking', where many smaller organisations lack individual authority in this field, and are subject to extensive competition from other PFSs.

and regulation as a means of raising quality standards. These associations are, however, factional, and design representation is poor with few designers on policy bodies. All these issues are represented in figure 3 as the challenges of the five forces for the design industry.

How do design consultancies compare with Professional Service Firms?

The predominant challenges for the design industry emerging from this the focus group and in comparison with the Professional services sector are described in table 1. In summary, design consultancies in the main do not operate as a professional service nor are they valued as such by the design buyers, whilst the suppliers of knowledge are over supplying and there are alternatives continuously emerging from overseas and other sectors, with few structural barriers to substitutes.

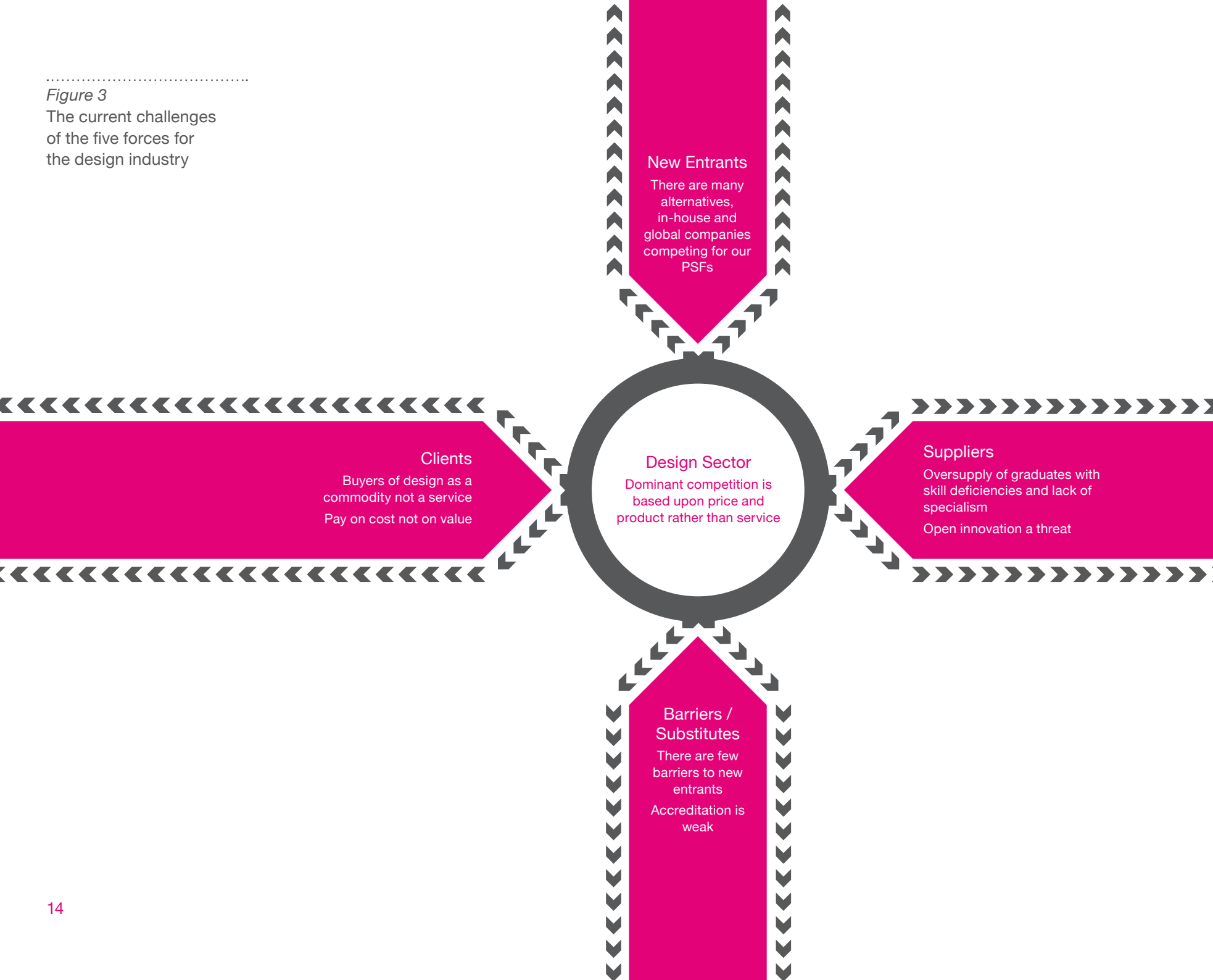
5 Substitutes/Barriers to market entry

The consensus is that design is essentially a 'cottage industry' with the majority of design companies having less than 5 employees. Whilst the barriers for the PSF are well defined in terms of client relationship, credibility, and the ability to hire talent and keep it – these are absent in the design industry, and there are few perceived or indeed real barriers to entry. However, perceived value appears to be lower in design than other PSF, resulting in few sustainable client relationships. The competition between designers is likely to be price rather than value based. Many design associations are now championing the introduction of accreditation

	Design Consultancies	Professional Services Firms (Scott, 1998)
Sector	The dominant competition factor is still price and the focus is still on process rather than service.	The operating margins are much higher than any other industry, reflecting the fact that the dominant purchase criterion for many PFS segments is not price; differentiation in the world of PSFs does not simply mean having unique products and products or intellectual methods, and PSF frameworks are not particularly defensive; instead, differentiation means the quality of the intellectual capital of the firm – the collective ability of its senior people, embodied in its brand reputation - which is not scale-specific.
Suppliers	The sector has an over supply of graduates and yet the skills gaps have increased, whilst there are other sources of innovation and design. And there is a need to develop specialisms in relation to the trends in technology.	The suppliers in Scott's PSF model are either fresh graduates or seasoned professionals, and with growth in PSFs far outstripping that of the quality of the graduating student population, competition for experienced people (as opposed to new hires) is already formidable and the ability of such people to switch is increasing; the net effect of the increasing power of the individual suppliers will be to polarize the PSF market further.
Buyers	Clients see design consultancies as commodity suppliers, and an increased financial risk, the market is international for the larger clients. Client pay on commodity rather than value.	According to Scott with consolidation among major clients occurring faster than among advisors, most PSF segments have experienced an increasing imbalance of power between suppliers and buyers; the key is the ability of a PSF to be valued by its clients. A client that values a PSF will tend to accept a 'value billing', a pricing mechanism which relates the payment to the value of the services to the client and not to the costs of delivery for the PSF.
Alternates	In house design, collocated design groups amongst the emerging Asian market and also competition from other PSFs as they diversify in to design and innovation.	Among industrials the source of most substitution is new technology; as PSF work methods and frameworks are easily copied, the only proprietary material possession is the brand at the foot of the 'overheads'.
Barriers	As a cottage industry the barriers to new entrants are relatively absent, talent moves around. Sustained, long term clients are low. Associations and accreditation bodies are fragmented unable to build entry barriers to the profession.	Although it is a common assumption that the entry barriers to most professional services are nonexistent, the PSF competing successfully on differentiation actually tend to have significant entry barriers; the most important ones are client relationships, credibility; and the ability to hire talent and keep it.

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Table 1
Design Consultancies
and Professional
Service Firms in the Five
Forces Framework

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Figure 3
The current challenges
of the five forces for
the design industry



The Future for Design: Scenario Development and the Futures Panel

To understand the issues raised by the design focus groups, we set them within the conceptual framework, and to review and consider these 12-15 years into the future, a scenario planning² approach to the research was adopted. In attempting to look this far into the future, it is recognised that there is no single future, but a multitude of possibilities (van der Heijden, 2004). The scenarios are therefore not intended to predict the future, but to be used as tools for thinking about the future, based on four assumptions:

- The future is unlike the past, and is shaped by human choice and action
- The future cannot be foreseen, but exploring it can inform present decisions
- There are many possible futures, scenarios map a 'possibility space'
- Scenario development involves both rational analysis and subjective judgement.

² This timescale is too long for conventional trend or extrapolation approaches, where prediction is too unreliable. This approach combines known facts about the future, such as demographics, geography, industrial and ecological information, with plausible alternative social, technical, economic and political (PESTEL) trends which are key driving forces, but include anticipatory elements that are difficult to formalize, such as subjective interpretations of facts, shifts in values, new regulations or innovations (Schwartz, 1997).

Using a futures panel of 15 experts, a PESTEL analysis (see appendix), thirty two scenarios were developed and subsequently reduced to four, based on likelihood and impact – both direct and indirect – on the design industry. These scenarios build on an extensive review of national and global futures scenarios, and in retrospect, correlate closely to related exercises undertaken within the DTI's (now DIUS) Foresight programme (DTI, 2002), which itself identified four scenarios: national enterprise, world markets, global sustainability, and local stewardship.

The four 2020 scenarios

Eco-Imperialism

In this scenario global warming is the major issue, driven by strong economic growth and population explosion, particularly in developing economies such as Africa and parts of Asia, where science has combated life threatening diseases, and technology has enabled the developing world to leap-frog communication infrastructures and participate more readily in the global economy. Significant pressure is now placed on the supply of energy and other essential resources e.g. food, with high levels of pollution resulting from increased urbanisation.

The world is divided between those that have easy access to life-essential resources, and those that have working age populations. The global management of energy and resources has become a power struggle

between those that have the wealth and those with the resources and production capacity. Carbon trading is common practice with sanctions and tariffs placed on nonconforming states. A form of Eco-Imperialism exists, with countries such as China investing in chunks of oil rich Africa. However, in major parts of Europe, quality of life is now threatened by an ageing population and expansion of the EU, putting significant pressure on health and welfare resources, and limiting the region's potential to compete with the growing economies of India and China.

Silver Communities

In this scenario the ageing population are now the dominant force in many key markets – Europe, Japan, Russia and increasingly China. Rate of population growth has been contained, as the underdeveloped economies manage birth rates more effectively. There is therefore a growing reliance on the elderly to remain economically active. Indicative of other sub-groups, the emergence of long tail economics and e-governance have empowered this community. They are listened to and organisations are now actively finding ways to engage with them, provide for their needs, and develop more participative means of consultation. The acumen they bring to resolving issues is no longer ignored, as such groups become more instrumental in determining, resolving and satisfying their own requirements. The strength of such communities lead to stronger identification with local, regional or like-minded communities, rather than global cultural homogeneity.

BRIC (Brazil, Russia, India, and China) Economies

In this scenario China and India have become powerful economic forces within the global economy, whilst Russia's power lies in its control of energy resources and individual wealth, and Brazil's economic growth and large population renders it global bargaining power. Here, the UK economy has become more nationally focused, operating as a satellite server to the EU. The BRIC's have established strong regional identities and this shift has meant that 'Glocalisation' rather than 'Globalisation' is the driver for companies working internationally, with multinational corporations now developing products and services that are Mass-Glocal rather than Mass-Global.

Global Flow

In this scenario economic decline, combined with global warming and population explosion, put pressure on countries and organisations to come to global agreements on how to work together to resolve these crises, resulting in a greater sense of global connectivity. There is a growing shift from materialism towards a collective understanding of the quality of life, with significant flow between populations globally. People migrate for work and environmental reasons, as large areas of the world become less habitable or provide employment opportunities. This constant flow has led to more inter-racial relationships, and a greater acceptance of cultural similarities rather than differences. Nations work together to resolve the imbalances that exist in resources, knowledge and technologies that will enable them to collectively resolve major issues re pollution, the depletion of resources and environmental disaster. This sense of sharing within exists between communities, across countries and regions.

Design Futures – The future panel perspective

In addition to supporting the creation of the scenario tools the futures panel were also encouraged to discuss the possible impact of all of the issues and changes by 2020, on design and designers. The main emerging thoughts were:

- **It was believed that events in the future would effect people's attitudes towards materialism, and that a major global disaster event would refocus design towards quality of life** – the future panel believed it was quite likely that there would be some form of major global disaster, and that all the design rules suddenly change and move away from wanting to have lots of material goods to wanting to focus on safety and health and quality of life.
- **Self-actualisation design** – it was believed that there would be an opportunity for design that focuses on the top layers of Maslow's hierarchy (Maslow, 1943), related to an emphasis on socialisation, tribal connectivity and quality of life.
- **Ecological design** – the panel felt that designers would need to look at systems/structures and solutions to enable us to live more sustainably.
- **Beyond packaging** – many designers were held responsible for aiding retailers and FMCG clients into over-packaging and creating waste that was often not recyclable. Designers will need to become more responsible – designing 'cradle to cradle' packaging and packaging materials and limiting packaging to its essential role of keeping products safe or preserved.
- **Two types of designers** – the panel saw the emergence of two types of designers: product designers who still design products, and 'facilitation' designers, designers that design the systems, processes, software, that enable people to make their own things. In addition, more products would be made at home, and the designers would come to 'you' to make sure that the designing experience was safe/good.
- **Personalised design** – Another vision by the panel was that designers will be designing products that evolve/adapt with 'you', as 'you' and 'your life' changes and that reflect your personal requirements.
- **Localisation of manufacturing** – increasing digital design/rapid manufacturing will enable designers to help people design for themselves, or small local design units to create personalised design to specifications from individuals.

Throughout the discussion of the possible scenarios for the future there was a generally aired consensus that designing will focus further on enhancing the quality of life, not just the quantity of things – the panel (and indeed designers in other focus groups) believed that designers were partly responsible for participating in creating the current consumer society – where the expectation was for fast turnaround, throwaway products, and design determined desire for something more aesthetic, more covetable, providing the owner with status amongst peers. Now it was time for designers to take more responsibility and think about the quality of life and impact on the planet in all that they are designing.

Response to the Future: Design Clients and Buyers

Using the four future scenarios interviews were undertaken with clients and stakeholders distributed across a number of sectors manufacturing (including food and drink), healthcare, utilities, professional services, retail, the public sector, and telecoms. The interviews followed a structured format in which the impact of each of the future scenarios, the implications for design procurement were discussed.

What will client design needs be in 2020

When clients examined the scenarios they were all asked to consider their needs, and how they might be working differently and what competencies they might require to support them in their business within such a context. Table 2 summarises the responses to each of the four scenarios.

Many common factors arose across the scenarios were evident. For instance, all interviewees envisaged that they would be working in a more competitive environment, particularly with the growing strength of the BRIC economies. They imagined that they would have to reconsider their economic models, particularly those currently getting their income from the delivery of an information service, as more and more information became freely available. They would also be looking at new business models to help them be more effective in local markets. Accountability and transparency were also key issues and acting responsibly towards

Clients want a proactive, visionary, design industry with a competency that goes beyond designing artefacts.

consumers and the environment meant that they would have to operate a sustainable business, in all markets, and across all parts of the business.

For clients there were some overriding themes emerging with respect to what competencies they required from designers to help them operate effectively in the future. These were:

- Cultural understanding
- Willingness to collaborate
- Strong leadership
- Expertise in, for example: technology, remote working, project management, designing data management systems, global warming, sustainability
- Agility
- Ability to create services, not just products
- Broad based innovation capabilities

.....
Table 2
 Scenario-specific
 findings from interviews

Eco-Imperialism

- Recognition of accountability and need for industry transparency, particularly around environmental issues
- Innovation from a fluid perspective and a broader base of disciplines - chemistry, biochemistry, engineering
- Awareness of diversity, and local knowledge in markets
- Designers need to confront issues and take responsibility for the effect design can have
- Clients work in-house as much as possible
- Experience design would be outsourced, technical development undertaken internally. We also take on a licence from a small independent company if they have a breakthrough technology
- Consultancies will adapt, but will need to be much more competitive
- The service of design almost becomes a commodity, a lot of people will buy design on price
- Some design led companies will try to enforce the same design everywhere, Apple for instance, but others will look to enable personalization and customisation

Silver Community

- Product/service complexity to product/service simplicity
- Service delivery and new economic models, as more services (mobile communications) become freely accessible
- Mass niche marketing, rather than mass 'mass'
- Strong leadership, cultural understanding, willingness to collaborate. More strategic design, people with strong insight skills
- Every form of knowledge will be needed from anthropology, to sociology, to psychology, so anything within the human field of knowledge could be applied to a certain business model
- Greater involvement of the customer in the product/ service design process
- More strategic design, looking at the broader issues
- Facilitating collaborations as an intermediary party

BRIC Economies

- Business models, will need to know how to localise products/services, and maintain value
- Clients would need to be more agile, and their competencies would shift from making product to making services
- Designers need the ability to create services, not just making products
- Clients and designers need to work with different cultures
- Designers need the ability to challenge thinking
- Core innovation would come from the design department here
- The percentage of work that we commission from overseas consultants or designers increases
- Clients want to open global offices, or work with design satellites to bring the cultural perspective
- Clients will look to be challenged and to be stimulated

Global Flow

- Businesses will either retrench to core competency or diversify in order to manage the economic downturn
- Businesses will look to consolidate, or acquire local partners
- New forms of global agreements for networks to collaborate and work together will be needed
- New opportunities for new services around global issues such as the environment
- There will need to be a depth of cultural understanding
- Ability to manage continuous evolving change will be required
- There will be bespoke toolkits for consumers to create their own designs
- Need to lose their small-minded 'UK' perspective
- Designers to be less artefact focused, more able to design systems or services, or experiences

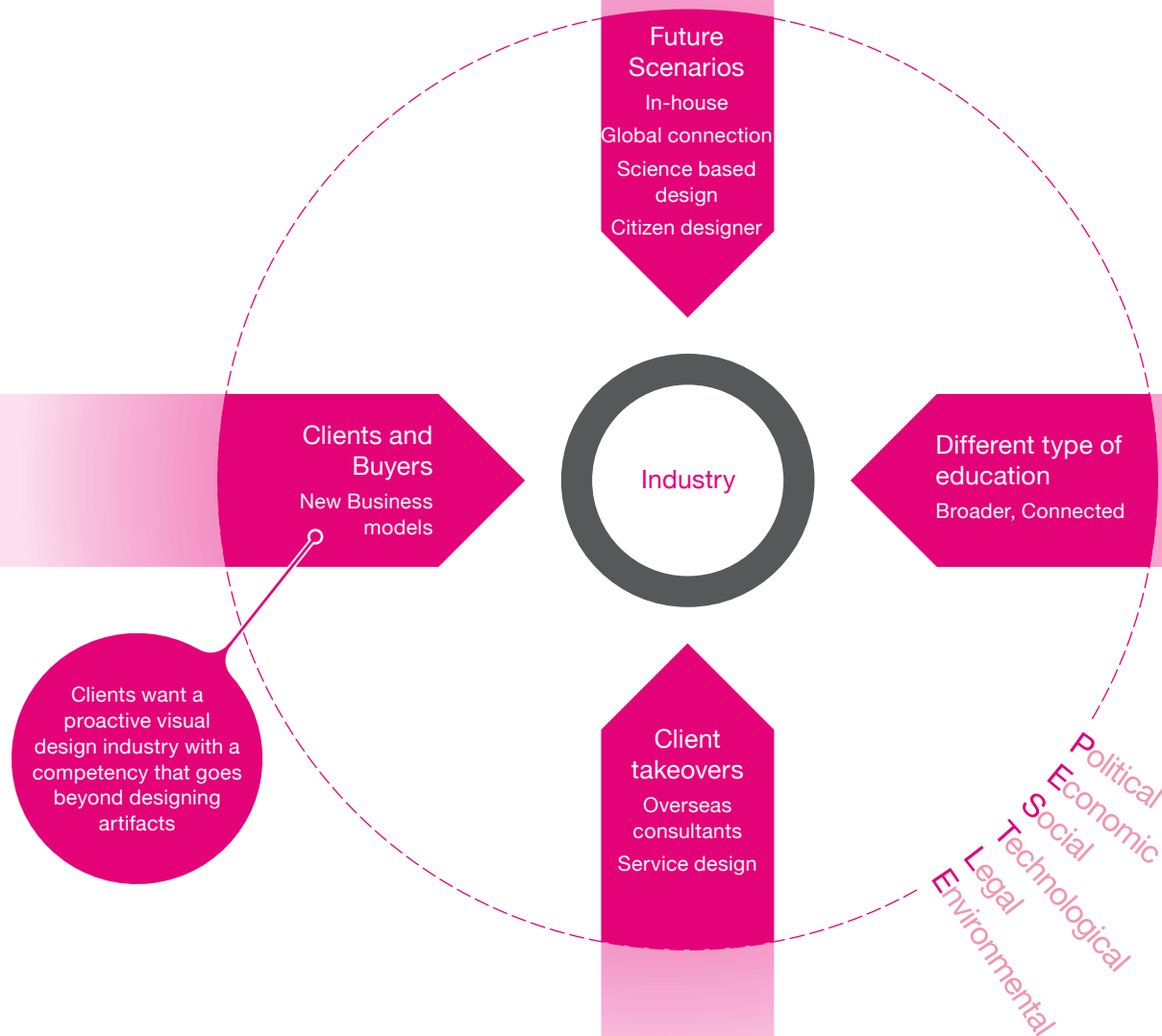
- Biochemistry, engineering and science-knowledge
- Ability to challenge clients and their thinking

At the same time they were asked what they expected from the design industry in general:

- Consultancies should remain ahead of the curve, be proactive, more visionary, and lose their small-minded UK perspective, open global offices, or work with design satellites to bring the cultural perspective
- People within design should be less artefact focused, more able to design systems, services or experiences
- Consultancies should have courage to confront the issues of sustainability (environmental factors, etc) and to take responsibility for the effect that design can have the environment and society
- Consultancies should be bolder in developing uniqueness, and not trying to become a homogenised oneness

The clients view of the future is a challenging one (figure 4), if we map it onto the five forces conceptual framework, it seems that we need a different type of education to supply the designers of the future, that designers themselves should be highly educated and more ambitious in their aspirations, they should be able to understand and perhaps work with clients to develop new business models using design and going beyond designing artefacts. That design consultancy sector faces challenges from new entrants, such as in-house design teams, and global competition as well as the emergence of the 'citizen' designer. Whilst there are still relatively few barriers to substitutes, fragmented accreditation and professional body representation and low brand presence was apparent.

Figure 4
Client view of the future of
the UK design industry



Response to the Future: Designers

In order to explore the future of the design industry itself, 30 designers (see appendix) from a selection of design consultancies attended a workshop to consider the implications of the scenarios and what the impact would be on the design industry. This discussion was used to derive potential future models of practice and policy for the industry.

In exploration of the scenarios designers believed that there would be:

- More of a need to specialise, to become fully conversant with one or two areas of importance, for example, there would be a need to be able to specify and have knowledge around new materials, particularly those that would make products more recyclable or renewable
- Simplification of products and services to make them usable for all – all ages, all cultures – as these became accessible in the global marketplace
- Development of products and services to meet ‘global’ niche markets, with more personalisation to meet the cultural needs of different markets, and the needs of the individual consumer
- Longer lasting/more sustainable products via ‘cradle to cradle’ design, that produces less waste, reuses materials and uses energy efficiently
- Global design proliferation would create a highly competitive design marketplace,

with more global products/services developed with a local perspective

- Pick ‘n’ mix design, clients will be spoilt for choice and be able to choose amongst a variety of design services
- Localised design and production would begin to prevail
- There would be a growth of in-house product and service design
- There would be an increase in design through consultation and collaboration
- There would be a greater need to take shared financial responsibility – taking a risk on new ideas, alongside clients or other collaborators
- A movement to develop more meaningful brands/products/services would prevail
- Design with responsibility (away from profligacy) would prevail

In response to these challenges the participants considered that the competencies designers will need were:

- To have a high level of knowledge and experiences to influence design decisions
- To be effective at the management of design hubs/collaborative processes
- To have an ability to filter large amounts of information

- To be able to develop a two tier design structure, encompassing:
 - Leadership/strategic thinking
 - Specialisation and detail thinking
- To develop a depth and quality of knowledge that has value for and is recognised by clients
- To be ‘thinking’ as well as, or instead of, ‘jobbing’ designers
- To have the ability to consult at all levels and create collaborative relationships
- To design by looking out to the world rather than looking introspectively to the design world
- To provide clear leadership and thinking, moving away from application and activity
- To act as ‘spongy connectors’ – absorbing information – connecting clients to the right knowledge, design response, and people

New models for the design business

Following this discussion the participants were then asked to develop the design consultancy of the future, to consider how it would operate, and what would make the new business models work. Ten models emerged and are summarised below:

UK Design Centres in BRIC economies

There would be UK design centres in each of the BRIC economies, with a UK Trade & Investment (UKTI) referral mechanism for accredited UK design services. Many of the services would be to provide specialists in cultural insight/design adaptation for EU markets

Small Independents

Here the design industry would be based on micro enterprises and freelancers (1-10 employees). These would be regionally focused, personality led, have limited capacity but be generalists with a ‘cottage industry’ mentality. However, there may be high clustering and high levels of competition with consultancies continuously searching for new clients

Specialised Innovation Services

This business model is similar to small independents, but accessing diverse yet specialist disciplines such as engineering, software development, service design. These would be highly focused aimed at niches with fewer clients and would have requirement to sustain leading edge capabilities

Own Brand Entrepreneurs

Design led entrepreneurs who operate design-manufacturing collaborations around luxury/craft/homeware/apparel sectors

IP Investors/Speculators

Designers invest in their own and/or others innovations using equity share models. Also exploiting open innovation and pitching to venture capital/blue chip brands

Design Strategists

Designers providing services in strategic innovation and change management. This extension into non-design and service sectors that means greater engagement with other business disciplines, probably operated by small independent, loose affiliation business models

UK Export Engine

Here design consultancies focus on supporting UK clients exporting overseas, networked local design affiliates in key export markets who provide regional cultural insight, this provides and supports the 'glocal' design concept

Global Design NGO

This is an international, not UK specific, design NGO with a board of top design directors. The focus is a socially responsible model and supports Corporate Social Responsibility (CSR). Fees are earned from UN, DFID, MNCs with a remit to address significant problem 'hotspots' around environmental, social, war-related contexts. The structure may include a virtual pool of freelance designers/specialist network of experts or nomadic networked model of designers

SIG (Special Interest Group) Niche Network

'Facebook' social network approach: essentially a C2B2C model. The structure involves co-design/participation between design communities and special interest groups regional hubs. Designers role is as facilitator and mediator. Fees would be based on scale of contribution and would be reliant on 'long tail' economics, outsourcing production and distribution. Here there would be high public sector engagement such as the re-design of services. Other clients would include subgroups, empowered communities, and local authorities

Mega Design Corps

This is a large multinational not UK specific, selling to large organisations. Based everywhere and in all sectors. The business offers creative and organisational development and is driven by growth/acquisition

Designers want one body headed by an elected design advocate who promotes the value and awareness of design

These potential business models were reviewed further and five models that held real potential and challenge for the future were explored in more detail:

- UK Design Centres in BRIC Economies
- Specialised Innovation Services
- Design Strategists
- UK Export Engine
- Mega Design Corps

Using these five models the panels created a list of actions they felt would be needed to be in place by 2020 to provide the environment for the new design business models to operate. These were:

- 1 An established education system that recognises creativity and business fusion.
- 2 Interdisciplinary education – creativity, engineering, and IT
- 3 Education/Industry knowledge exchange – funding designers into education, academics into design industry
- 4 Further training and development of business leadership for design
- 5 Lifelong education for designers from apprenticeships in design to management training
- 6 Good practice and mentoring for design practitioners
- 7 High levels of understanding of IP valuation and exploitation amongst the design profession
- 8 Government support for employers to enable employees to go on learning sabbaticals
- 9 Designers assuming professional responsibility

The designers view of the future of the UK design industry is illustrated in figure 5.

This was followed by the identification of policy initiatives necessary to support the development of the industry. These include:

- The introduction of design company accreditation – providing clear standards to ensure and enhance design value
- The introduction of national policy of grants and investments rather than the current Regional Development Agency model. This might include government investing positively in design, for example:
 - Finance support for design consultancy business development, particularly small consultancies
 - Subsidies for design consultancies with international work experience
 - Public sector commissioning and promotion of high profile design projects, to give design thinking higher profile
 - Public funding for design that has higher social value
 - Government providing designers with briefs to tackle serious design issues rather than setting up ‘flippant’ design challenges with small budgets
 - Tax breaks for: Design R&D, not manufacturing in China, positive business carbon footprint, ethical production

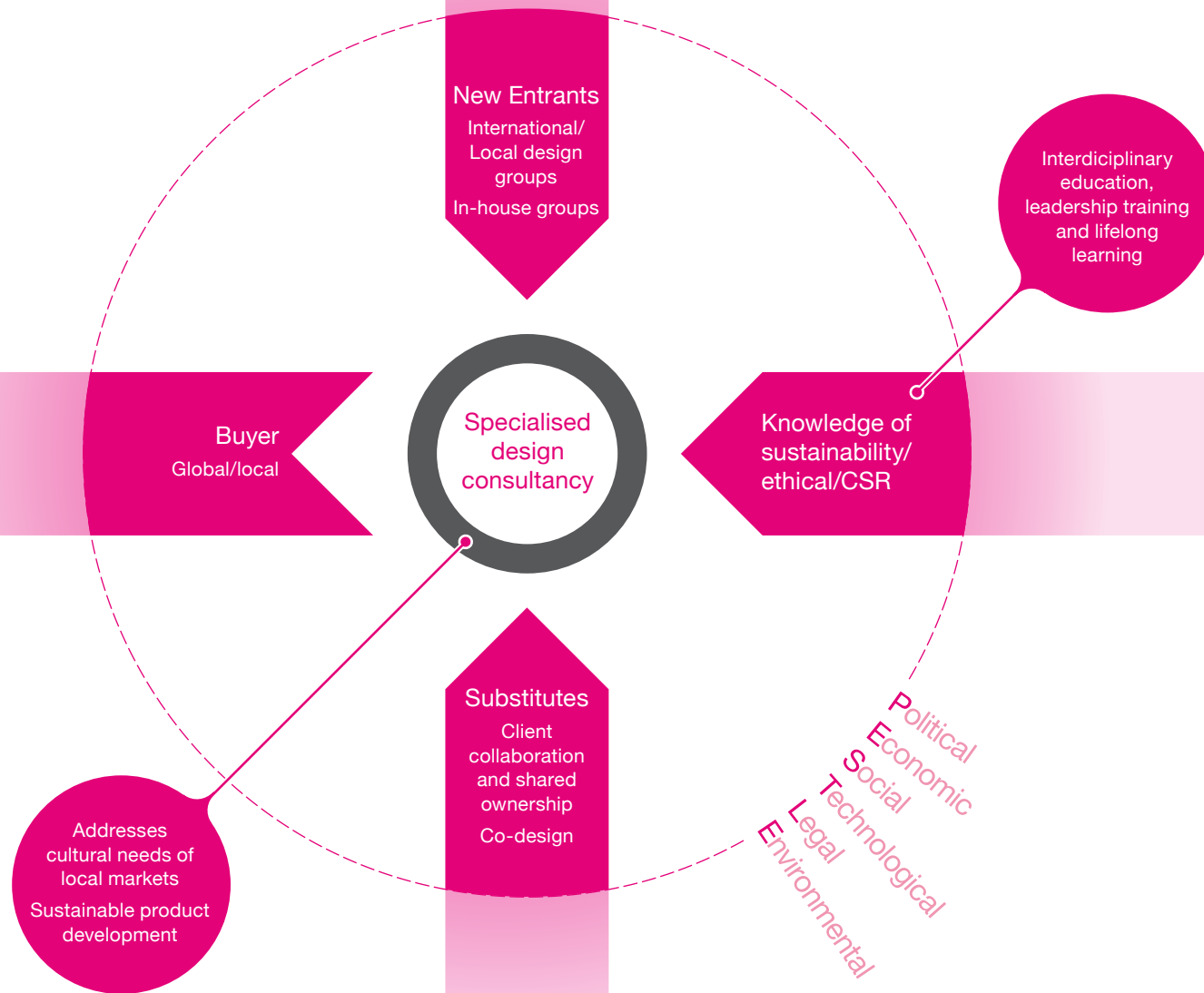
Clearly, there is a desire amongst the designers to look at models of business that bring value, and enhance their professional credibility. Whilst those representing

the Design Council and Design Associations might argue that many of the actions that are being put in place now are enabling designers to prepare for a future design industry that can participate in the rapidly changing global marketplace, there are still some issues that need to be considered, particularly how designers as a collective group are supported by the various industry bodies.

The participants were asked about leadership within the industry and discussed how this should be taken forward especially in relation to design bodies and associations. The role of the Design Council and its purpose, was spontaneously discussed during all stages of this research, in focus groups, in the design futures workshop, and in the policy workshop. Many felt that they were unclear about the present day role of the Design Council, and that preferred the original model, when the Design Council was perceived to promote the ‘best of British Design’ and supported designers, with a showcase environment. However, there was recognition that there was also a requirement for a strategic role, alongside the promotional role.

The panel also generally believed that the Design Associations were not collaborating together for the benefit of all. The participants were asked what was required from Design Associations in the future, their conclusions were summarised as requiring one design body with an elected design leader who was not a political figure, but a design advocate able to represent the commercial value of design, not just ‘fashion’ artistic appeal. Such a body would have a lobbying role to reinforce value of design and a responsibility to raise public awareness of design value and design training. The panel also supported the idea that introduction of public design awards for social service as well as the other aspects of design.

Figure 5
Designer view of the future
of the UK design industry



Response to the Future: Policymakers

In order to understand the views of policy makers on both the scenarios, the new business models, a workshop of policy-makers related to the design industry was held (see appendix). The delegates considered the four scenarios, the potential impact of each of the models on the design industry (size, shape, growth, UK, internationally), policy implications, and the future role of design associations/design leadership to act as an enabler. The discussion can be summarised as follows:

Eco-Imperialism

In this scenario the policy makers saw power residing with those that manipulate (not necessarily own) resources. There would be an increase in protectionism and taxation and here design's role would be to aid tracking and regulation. Design in general would be led by business where there would be growth in resource accounting and the development of complex design supply chains. Designers would need to be concerned with carbon and health dimensions of trade, and with an increase in sophisticated labelling and packaging. Designers would also have the opportunity to be involved in infrastructure and intermediate technology for the third world where funding such as that from Department for International Development would increase. In developed countries the growth of green technologies would continue, and the shift from science to applications for wellbeing would continue supported by governments. 'Knowledge', the intangible resource, would continue to be important, and with the continued growth in ICT there would be more nomadic knowledge behaviour. National Design Policies would be important.

Silver Communities

The panel felt that in this scenario the polarisation between wealth and poverty would continue, age barriers and succession planning in design would need to be considered. R&D tax breaks would be required to encourage greater engagement in design. There would be an increase in public health service design, and employers would need to reconsider work to ensure it enabled elderly employees to continue to remain in the workplace. There would also need to be more Continuing Professional Development (CPD) throughout the design career.

BRIC Economies

In this scenario of growth amongst the BRIC countries there was seen to be potential for an enhanced role for the British Council in promoting design. Greater links would be necessary with BRIC clients, alternative licensing and royalty models for design, and a need for improved awareness and understanding of IP. Market growth in high end goods would require cultural strategies in design as well as the need to consider the growth in urban lifestyles. Open innovation and equity models would be a challenge in this scenario (as in the others). The denationalisation of science and technology and systems of innovation moving closer to market implementation, would require high level design skills.

Global Flow

In response to this scenario the panel saw continual increase in connectivity and learning amongst communities of practice. Science and technology would not be the driver but more human centric approaches to change would be necessary, to build in local resilience and create local communities. Design practice would need to embrace these issues.

Challenges for the industry

These scenarios raised a number of issues relevant to the design industry and practicing designers. Firstly, 60% of UK design companies comprise less than five employees, this raised the questions as to whether the small design agency model is obsolete. Such micro-businesses cannot afford the time to develop their own capabilities. On the other hand the design industry could be considered analogous to the music industry, however it would need to develop its own positive approach to high risk, high reward environments. It was perceived that the design industry is unable to understand its opportunities, pays lip service to collaboration, and that the industry lacks designers with requisite competencies, indeed less than 15% have the skills to undertake strategic thinking. There is a need for designers to move from having draughting skills to having business acumen i.e. a shift from 'design desk fodder' to 'professional development'. On the other hand this may not be possible and perhaps many designers might remain as 'technicians'.

In the light of all the scenarios it was felt that new models of design business are necessary, that there should be greater focus on 'co-specialization' but design is poorly geared to exploit these. Indeed other

Scenario	Policymaker Rating
UK Design Centres in the BRIC Economies	Likely, but moderate impact
Small Independents	Extremely likely, but low/negative impact
Specialised Innovation Services	Extremely likely, moderate scale, high impact
Own Brand Entrepreneurs	Moderately likely, limited scope and low impact
IP Investors/Speculators (e.g. Carbonate)	Unlikely, limited scope and low impact
Design Strategists (e.g. Doblin Group, Chicago)	Most likely, 10-15% scope for uptake and most positive impact
UK Export Engine	Moderate likelihood, moderate impact, but limited scope
Global Design NGO	Least likely, extremely limited scope
SIG Niche Network	Likely, with some positive impact although confined to specific niches
Mega Design Corps (two versions: Walmart/McKinsey of (ubiquitous) design vs. WPP (sub-branded))	(Very) likely, with positive impact
In-house Design	Extremely likely, as today

Table 3
Policymakers response to the scenarios

businesses are more likely to seize such opportunities. Similarly the panel believed that other opportunities such as corporate social responsibility often fail to be addressed by designers. Finally the panels view was that government still needs to recognise the value of design and support the development which currently has fragmented support through Regional Development Agencies more generally.

Korean's brand names). Many value collectors are eager to connect with the values and tastes of European and US customers, work with local designers, or set up local design studios, providing opportunities for these business models too.

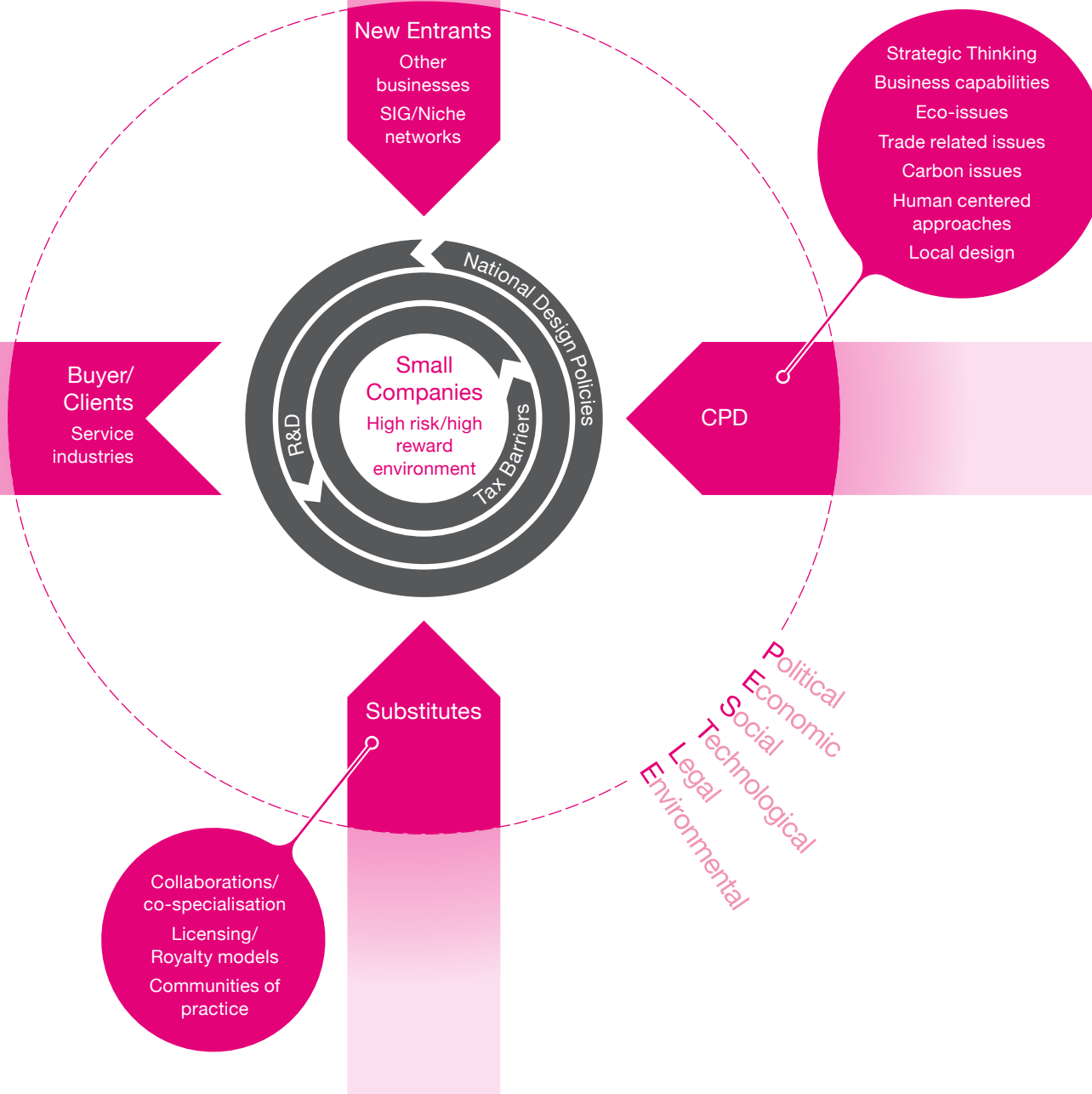
Policy makers view of the future of the UK design industry is illustrated in figure 6.

Policy and Design Business Models

The policy makers sought to explore the validity, sufficiency and implications of the design models arising from the designers workshop. Participants were asked to critique, adapt and rate each model, and/or identify alternatives as appropriate. The findings (table 3) suggest that the most likely design business models for the future from the policymakers' perspective are Small Independents, Specialist Design Groups, Mega Design Corps and Design Strategists - all of which exist to some extent today. However a new model thought to be likely was the SIG Niche Network, suggesting structural frameworks and agreements need to be in place to support such a network. The digital economy would seem to encourage a positive approach to the development of design business models to address the challenges of the future both economically socially and environmentally. The least likely to occur was the Global NGO, considered by the panel to be irrelevant and would need a major change in perceptions of design amongst opinion formers and educators.

Participants also identified that 'exporter' and 'entrepreneurs/design-makers', where 'star designer' status is significant bear a similarity to what Grinyer (2001) called 'value exporters' (European brand names) versus 'value collectors' (Japan and

Figure 6
 Policymakers view of
 the future for the UK
 design industry



Discussion and Recommendation

This report set out to place the UK design sector as a professional service within a theoretical model based on Porters five forces to assess its readiness for the future. In doing so we characterised the buyers and suppliers of design knowledge, skills and the competition from alternative service providers, and substitutes within the model. We identified that the design sector does not exhibit some of the defence and leadership mechanisms that other PSF sectors have built up, such as the growth of the sector versus the supply of graduates or seasoned professionals, the ability to use value billing, or the prevention of substitutes through the possession of propriety materials such as brand. In responding to the future scenarios each of our research sample had wide ranging views.

The futures panel identified quality of life, sustainability and localisation as dominant forces now and for the future, they saw the need for two types of designers, 'product' designers and design 'facilitators'. Whilst design clients saw a further demand for a breadth of skills and competencies, including cultural understanding, leadership, the ability to create a service as well as products, and wider world view indeed more inter-disciplinarity. They believed they would require consultancies who were global in vision, less artefact focused, able to confront issues of sustainability, and who were bolder in developing uniqueness.

In terms of the four scenarios the clients provided extensive insight into what responses each theme would mean for the industry, these included radical change to the education of designers, and the

challenge of new entrants and global competition as well as the emergence of the 'citizen designer'. They predicted new forms of collaboration, global agreements, IP arrangements, and broader based consultancies with multiple discipline specialisms.

The designers in their response to the scenarios, saw more specialisation, the need for experts to understand technology and materials, both globalisation and personalisation of product development, more emphasis on environmental issues in a highly competitive marketplace, and increasing substitution from in-house design and service design. They also saw alternative business models such as shared investment shared risk in design. The designers on identifying these issues also identified a need for both design leaders and design specialists, and a design industry that had a broader vision of the world.

The designers 'envisioned' ten new business models for these scenarios and selected five: UK Design Centres in BRIC Economies, Specialised Innovation Services, Design Strategists, UK Export Engine, and Mega Design Corps. For any of these models they identified that a radical change in education was required to engender a lifelong design education, supported by design accreditation and a single professional body.

Policy makers response to the scenarios was a rise in complex design supply chains in relation to the challenges of either regulation and protectionism, or carbon and health dimensions of trade. Therefore, there would need to be a change in the design sector business models and a change in the design competencies. The policy makers ranked Mega Design Corps, Small Independents, Specialist Design Groups as most likely to exist as they do

today, but also tended to believe that a new model may be based upon SIG Niche Networks.

One of the significant findings from this work is the discussion on the nature of design practice and design education and three questions arise:

Is the current focus on 'Design Thinking' and designers as multi-disciplined strategic thinkers, a red herring, and limiting the potential of the UK design industry?

There has been some debate around the idea of designers becoming involved very early on in the formation of an organisations strategy, and that their ability to problem solve is a much needed requirement to provide organisations, NGOs, and governments, with solutions to problems as far reaching as the global warming crisis, how to get the NHS working better, or how to develop the next new product or service offer for commercial business. However, within the focus groups and the policy workshop, some challenge to this as the sole way forward for design were raised.

The experience of companies such as IDEO who have been leading in this way, would indicate that only 15% (Brown, 2008) of their time is spent on doing this form of work, although this is on the increase. Whilst others have commented on how it was still an uphill struggle to get clients to consider design in this way. Yet overall the finding of this report indicate that design thinking and designing beyond the artefact will be a future alternative for the design sector.

Does there need to be a better understanding of design as an instrument to enable better thinking, which could support children and young people in their learning across a range of subjects?

In order for design to become more integral and broadly used, there needs to be a shift in the way design is perceived generally. Design is in danger of becoming ghettoised within the educational system, and regarded by parents as secondary to other more 'academic' subjects, with the emphasis in the classroom, placed on use of the computer technology to do graphic design, or product design. However, little attention was paid to the role that design as a process/or instrument could play to aid better thinking practices across other subjects. In many schools design is taught as a 'technical' subject, and the creative/artistic aspect of design is ignored. The 'thinking' and ability to think laterally that is associated with art-based subjects is not applied to design within these 'technically' driven school environments (this was noted in interviews with a teacher, educator, and in the policy workshop). Using the 'thinking' process that is involved in identifying need and solving the problem, could become a more integral part of other subjects. This could lead to design becoming more integral to education, and enabling interdisciplinary skills, for example:

- Design + Science
- Design + Business
- Design + Creativity

This in turn should also be accompanied by a more segmented approach to the competencies required to being a graphic vs. product, or designer maker vs. design strategist. Currently all capabilities are being discussed under the one umbrella of design, and this does not allow a real understanding of the qualities required to be a good science-based product designer vs. a highly artistic graphic designer, nor the development of niche design focus such as design for health or design for education.

Does the design industry need to do more to understand the qualities and skills required to deliver a broader range of design capabilities that will be required for the future?

The design industry like most industries, is complex, and whilst this project set out to examine the 'commercial design sector' that still covers a wide range of skills, from being a scientifically minded product designer of medical equipment or high end technology, to a brand packaging designer or a corporate identity graphic designer. The design industry could benefit from some form of 'designer segmentation study' that examines the qualities and skills required across the different designer typologies. This could help education, designers and also clients to understand better how to bring clarity and focus to understanding the skill requirements for the future. For example, during this project many have discussed that more designers need to become 'strategic designers' in order to avoid getting undervalued as many of the design activities become 'commoditised'. This further highlights the need to take design beyond teaching the ability to design artefacts, and to incorporate design into other subjects, and to bring additional modules into design, so people can no longer leave school or college without at least having studied design in relation to a further discipline.

This may include Design Psychology, The Science of Design, Design Ethnography, or Ecology Design of which graphic, product, or service design is an output.

Policy Implications

Rather than consider support for the design sector as a homogeneous whole, this research has assumed continued fragmentation, the extent and shape of which is dependent on which future scenarios emerge. Given this premise, policy development is focused on supporting and/or nurturing those business models considered appropriate, to ensure fitness for purpose. In attempting to develop policy, it is, however, essential to separate the stimulation of demand from supply. The question is whether the design consultancy sector has the requisite skills, propositions, and business models to exploit an uncertain future.

If we consider the overall findings in relation to the design context model, the emphasis for the future lies in radical changes to teaching design and to the education of designers. It also requires new structure for the professional bodies and redefined roles, and finally a recognition that to remain competitive in a global economy, the design sector will need to change its business models. Ways in which these can be addressed include: government departments, such as the Department for Business, Innovation & Skills, encouraging and supporting universities, the research councils and the Design Council engaging in dialogue to address these issues; higher education assessing the relevance of the design curricula and design research to address the challenges and prepare design graduate for alternative futures; and the design sector daring to innovate by identifying and implementing new forms of business models.

Appendix

Participants

Focus Groups

18 June 2007 - Individual

Bob Young, Northumbria University
 Guy Robertson, Sprout
 Katy Holford, Katy Holford Glass Design
 Jo Hippolyte, London Associates, Design Strategist

21 June 2007 - Organisation/Operational

Geoff Hollington, Materials Design Exchange
 Jonathan Knight, Frazer Designers
 Les Stokes, London Associates
 Matt Plested, TheAlloy
 Paul Edwards, Virgin Airways
 Simon Stevens, Sainsbury's

25 June 2007 - Landscape/Strategic

Bill Sermon, Nokia
 Colin Allaway, Manufacturing Advisory Service
 Malcolm Garrett, Dynamo London/AIG
 Nico MacDonald, Spy
 Paul Pankhurst, PDD
 Richard Parker, Unilever

26 June 2007 - Policy/Infrastructure

Alastair Fuad-Luke, University of Creative Arts
 Christine Losecaat, Little Dipper/UKTI
 Elvira Eilet, Design Council
 John Bound, InnovationRCA
 Maxine Horn, British Design Initiative
 Simon Bolton, Central Saint Martins

Interviews

Andy Gower, BT
 Bill Sermon, Nokia
 Charlie Buckwell, Complete Medical Group
 Chris Dabbs, Chap
 Dave Brown, BT
 David Brockbank, NWDA
 David Mercer, BT
 Evan Kitsell, Whitley Scientific
 Lawrence Green, Manchester Business School
 Mike Stubbs, FACT
 Paul Edwards, Virgin Airways
 Ray Holland, Brunel University
 Robert Townsend, Director, Intarsia Consultancy Network
 Rodrigo Castaneda, Nokia
 Suzanne O'Dell, Pace

Futures Panel - 04 October 2007

Alex McKie, Consumer Futures
 Elena Corchero, Future Textiles
 Geoff Hollington, Design/Rapid Manufacturing
 Ian Pearson, Technology Futures
 Maxine Horn, British Design Initiative
 Oliver Heath, Sustainable Design
 Peter Horrocks, Head of BBC TV News
 Rohit Talwar, Global Business Futures
 Sylvia Collins-Mayo, Kingston University

Design Workshop - 08 April 2008

Alistair Williamson, Lucid Group
Andy Murrall, HUB Design UK
Ben Davies, Rodd Industrial
Brian Watson, Facto IP
Deborah Szcbeko, Think Public
Geoff McCormick, Alloy
Gill Wildman, Plot
Gillian Harding, Fuel Creative
Hans Peterson, Creactive Design
Ian Murison, Curventa
Ian Worley, Flowinteractive
Jeff Kindleyside, Checkland Kindleysides Ltd
Jonathan Knight, Frazer Designers
Katy Holford, Katy Holford Glass Design
Lee Bazalgette, Factory Design
Matthew Ridsdale, Formfollows
Mike Elam, Hyphen Design Ltd.
Mike Phillips, Renfrew Group
Neil Lumby, Lumby Futrille
Nicholas March, Engine
Paula Benson, Form
Peter Phillips, Rodd Industrial
Sarah Butler, Pearlfisher
Tony Dunworth, Skratch Design

Policy Workshop - 09 May 2008

Bruce Tether, Imperial College
Christina Martinez-Tsyklevich, The Chartered Society of Designers & The Design Association
Christine Losecaat, Little Dipper/UKTI
Clive Richards, Coventry University & President of CSD
Fances Hinton, East of England Development Agency
Felipe Buitrago Restrepo, Creative Economy Adviser
Hasan Bakhshi, NESTA
Hilary Collins, University of Salford
James Woudhuysen, De Montfort University
Jeremy Myerson, RCA
Jo Hippolyte, LA Associates/BDI: East of England
Lesley Morris, Design Council
Malcolm Prescott, British Design Initiative
Maria Ana Botelo Neves, Brunel University
Maxine Horn, British Design Initiative
Nina Warburton, Alloy
Peter Spence, SCDF
Phil Gendall, Gendall Design
Ray Lambert, DIUS
Ronke Adenle, Brighton University

Scenario Development

Scenario planning is a strategic planning method that organisations use to make flexible long-term plans. It facilitates learning about the future by understanding the nature and impact of the most uncertain and important driving forces affecting our future.

Scenario planning involves two elements: (i) constructing or developing scenarios, and (ii) integrating the content of scenarios into decision making (Fahey & Randall, 1998). Scenarios do not recast or reshape the present; rather they provide distinctive vantage points from which to re-examine, how the marketplace or industry is unfolding, which forces are shaping its evolution, and why it might evolve one way rather than another (Fahey, 2003).

Scenario planning can include anticipatory thinking elements that are difficult to formalise, such as subjective interpretations of facts, shifts in values, new regulations, or policy inventions.

This timescale under consideration is too long for conventional trend or extrapolation approaches, where prediction is too unreliable. In attempting to look this far into the future, it is recognised that there is no single future, but a multitude of possibilities.

An eight-step scenario development approach has been devised with rigour in mind. Whilst complete objectivity is not possible, the approach attempts to manage subjectivity, particularly regarding:

- Consideration of sufficient drivers and situations
- Clear rationale for eliminating possibilities and reducing the dimensionality of the data (without loss of information)

Step 1

Sort/organise drivers into a hierarchy

- Identify key drivers from the future panel and literature
- Distinguish between independent and dependent drivers
- Perform a root-branch analysis
- Eliminate roots which appear to be irrelevant to design stakeholders

Step 2

Identify trends and polar outcomes for each driver

Step 3

Assign driver poles impact (significance) and likelihood (certainty) ratings and map locations against these axes

- Eliminate low rated poles
- Ideally reduce to 4-5 drivers

Step 4

Undertake a morphological analysis to develop 'situations'

- Evaluate driver combinations (using each pole)

Step 5

Assign situations impact (significance) and likelihood (certainty) ratings and map locations against these axes

- Eliminate low rated situations
- Ideally reduce to 15-20 situations

Step 6

Identify clusters which link complementary situations

- Synthesise into 6-8 scenarios

Step 7

Poll future panels members regarding scenario rankings

- Arrive at consensus on 4 scenarios

Step 8

Flesh out scenario narratives

Given this, steps four and five depart from Schwartz's methodology as outlined in the 'Art of the Long View' (Schwartz, 1997).

Using the approach outlined, 32 initial scenarios were developed and subsequently reduced to four based on likelihood and impact – both direct and indirect - on the design industry. These build on an extensive review of national and global futures scenarios. In retrospect these scenarios correlate closely to related exercises undertaken within the DTI's (now DIUS) Foresight programme (DTI, 2002) which itself identified four scenarios: National Enterprise, World Markets, Global Sustainability, and Local Stewardship.

Development of scenarios depends on the use of a future panel. A future panel is a group of leading edge thinkers, who are aware of the key drivers of change, and how these may impacting on their particular area of interest. They work at the edges of their business/industry, and are the agents of change.

The purpose of the future panel is to bring an external perspective to a business, category, or industry to examine their observations on the changes impacting on people, business and brands, and to draw on their collective understanding to identify how the driving forces might impact on a particular business or organisation. The panel is designed to inspire new ways of thinking, ideas for innovation and for change.

In the case of Design 2020, the future panel collectively considered what the impact of the drivers for change might be on the design industry, and identified 3-4 potential future scenario themes for the research team to build on and take forward.

A future panel normally consists of 8-10 people, are an eclectic mix, and deliberately drawn from a range of disciplines in order to broaden the scope of thinking beyond the sector under discussion. Design 2020 utilised a range of futures specialists from within and beyond the design sector.

Each panel ran for approximately 2.5 hours. The first part of the session drew out their observations on the driving forces for change. The second part of the session connected these forces to the industry sector under discussion. The final session pulled thinking together into 3-4 concepts that formed the basis of the future scenarios.

Table 4. Pestle Framework

A pessimistic and optimistic pestle framework was used to frame the scenario development. Table 4 illustrates the way in which issues drawn from the futures panel were categorised against the scenarios.

Pestle driver	Axis	Pessimistic	Optimistic
Knowledge	Access	Heavily restricted spill-over	Free access
Economic Growth	Rate of growth	Contraction/decline	Boom with significant growth
The Environment	Impact on warming and energy	Global warming/significant depletion of energy resources	Warming contained with renewable energy resources
Population	Rate of growth	Explosion	Static/containment/Nominal growth
Societal Relationships	Individual identity	Identity based on local context	Identity based on global diffusion

SCENARIO SUMMARY	BRIC	GLO FLOW	ECO IMP	SIG
Key forces of change				
Moral/ethical/environmental tide			•	
Accelerating technological change driving consumption (replacement of technological products)		•		
Ease of consumer credit		•		•
Sustainability as 21st century piety – moving spotlights and fads; sustainability fatigue; ‘changing your world’ to ‘changing my world’			•	•
Spirituality of design – role of marketing				•
Key drivers likely to be economic drivers – determine ‘tipping points’				
Technological obsolescence accelerates the efficiency of the medium, ultimately reducing its load on the environment... but you’ve got to get there ...	•			
E.g. ‘diesel generators on mobile masts’ create a short term loading		•	•	
If the carbon limits were applied by DEFRA now, this would limit travel to 200km/yr			•	
Impact on the environment is likely to come through science, not lifestyle	•	•	•	
Consumer categorisation				
Uber wealthy-luxury restricted to 50-100M, based on design differentiation		•		
UK consumer class, sustainability fatigue		•		
New global affluent classes		•		
6-7 billion remainder, emergent mass 10-20% of whom have disposable income, with needs based on more physical requirements		•		
Globalisation vs localisation				
Communities as geographically local vs lifestyle niches (‘global village’ basis), offering co-dependence and shared interest (‘me and mine’)				•
Power of the consumer re negative word-of-mouth; collective action in boycotting requires closer reputation management, but are social networks a good means of coordinating action?				•
Developing economies ‘leapfrog’ 1st generation technologies and avoid early stage infrastructural obsolescence – rapid catch-up e.g. mobile phones in China	•	•		

SCENARIO SUMMARY	BRIC	GLO FLOW	ECO IMP	SIG
Technology				
Limiting factors – e.g. battery efficiency plateaus – need new paradigms			•	
Assumes stability of electricity/energy supply			•	
Co-collaboration and Peer-2-Peer trends				
Two types of designer		•		•
Those who design for others				
Those who design for themselves (and therefore require a process)				
The disconnection between products and technology is opaque				•
Build your own vs personalisation				
Repairing vs programming characteristics e.g. difference between creating and mixing music				
Is there a backlash to consumerism?			•	•
Impact of brands				•
Coke and its 4,000 variant blender				
The impact of virtual worlds (Second Life) on self-actualisation			•	•
Blended lives				
Increasing concerns with the future	•		•	
Return to hoarding				
Lack of trust in basic amenities and institutions/authority – associated with a ‘myth of decline’				
c/w way of life in Angola, where only 20% of the population has electricity				
solutions may increasingly come from developing economies				
Economic Outlook				
power bases remain India and China, already outsourcing back to the UK	•			
expectation that consultancy competition will cause a 60-70% depreciation in rates over the next 5 years	•			
Chinas economy continues to grow at 3x that of India, and the gap is increasing	•			
20% greater investment in infrastructure pa	•			

SCENARIO SUMMARY	BRIC	GLO FLOW	ECO IMP	SIG
No evidence that India will overtake China (other than a Western desire for India's democracy and widespread use of the English language to succeed).		•		
China's purchasing power > US by 2020; average consumer income expected to be \$2,000 vs \$35,000 in the US, but 2 billion vs 200 million consumers	•			
Tied by US's trade deficit	•			
Most software and knowledge economy in China, c/w 'hole digging' policies in India		•		
but requires a new generation of capable leaders	•			
Implications for the UK economy				
China as 'world's factory'	•			
UK as launch market: rolling out products and services to the West based on trading construction for oil; predominantly service based economy	•			
de facto standards developed elsewhere	•	•		
Africa as buffer zone between East and West	•			
Shanghai Cooperation Bank as powerful as the EU Central Bank?	•			
Overt power in commercial markets	•			
Western recession, return to austerity	•			
Manufacturing paradigms				
Shift from reductive to aggregate technologies and away from tooling				•
Focus on rapid prototyping/production and assembly fabrication		•		•
Next generation mixing of materials (rubber, PP, titanium)				•
Viable in 3 years, launched in 10, but at high cost; by 2020, likely to be restricted to novelty 3D models				
Impact of AI				
Shrinking info economy – managed via semantic webs		•		
Re-emphasis on quality of life and self-actualisation				•
Re-localisation of work				•

Appendix

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Project Team:

Principal Investigator: Alex Williams, University of Salford
Co-Investigator: Rachel Cooper, Lancaster University
Co-Investigator: Martyn Evans, Lancaster University

Research Assistant: Nick Hall, Lancaster University
Research Assistant: Linda Hodgson, University of Salford (seconded to the BDI)
Research Assistant: Qian Sun, University of Salford

Collaborating Partner:

Maxine Horn, British Design Initiative (BDI)

For further information, please contact:

Alex Williams
a.j.williams@salford.ac.uk

Martyn Evans
m.evans@lancaster.ac.uk

www.ukdesign2020.org

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